

What is claimed is:

1. A drink dispensing system comprising
at least one dispenser valve;
a carbonator;
an ice storage bin including first heat transfer coils therein;
5 a two-position control valve including a first position and a second position;
a carbonated water circuit, the carbonator and the first heat transfer coils being in
the carbonated water circuit and the dispenser valve being in fluid communication with
the carbonated water circuit;
a source of water;
10 a pump circuit including a pump, an inlet and an outlet, the source of water being
in communication with the inlet and the outlet being in communication with the
carbonator with the two-position control valve in the first position and the carbonator
being in communication with the inlet and the outlet being in communication with the
carbonated water circuit with the two-position control valve in the second position.
2. The drink dispensing system of claim 1, the carbonated water circuit
including a fluid shunt in the carbonated water circuit, the fluid shunt extending in fluid
communication around the two-position control valve.
3. The drink dispensing system of claim 2, the fluid shunt having a flow
control valve which maintains a selected and constant flow rate over a range of liquid
delivery pressures.
4. The drink dispensing system of claim 2, the pump being a single speed
pump.

5. The drink dispensing system of claim 1, the carbonated water circuit being a closed loop independently of the two-position control valve.

6. The drink dispensing system of claim 5, the carbonated water circuit including a bypass around the two-position control valve to close the loop of the carbonated water circuit around the two-position control valve.

7. The drink dispensing system of claim 6, the bypass having a check valve against backflow.

8. The drink dispensing system of claim 1, the pump having a two-speed pump drive with higher and lower speeds, the higher speed being engaged with the two-position control valve in the first position and the lower speed being engaged with the two-position valve in the second position.

9. A drink dispensing system comprising

at least one dispenser valve;

a carbonator;

an ice storage bin including first heat transfer coils therein;

5 a two-position control valve including a first position and a second position;

a carbonated water circuit, the carbonator and the first heat transfer coils being in the carbonated water circuit and the dispenser valve being in fluid communication with the carbonated water circuit, the carbonated water circuit including a fluid shunt having selectable flow resistance, the fluid shunt extending in fluid communication around the two-position control valve and a bypass around the two-position control valve to close the loop of the carbonated water circuit around the two-position control valve;

a source of water;

a pump circuit including a pump, an inlet and an outlet, the source of water being in communication with the inlet and the outlet being in communication with the carbonator with the two-position control valve in the first position and the carbonator being in communication with the inlet and the outlet being in communication with the carbonated water circuit with the two-position control valve in the second position, the carbonated water circuit being a closed loop independently of the two-position control valve.

10. The drink dispensing system of claim 9, the bypass having a check valve against backflow.

11. The drink dispensing system of claim 9, the pump being a single speed pump.

12. The drink dispensing system of claim 9, the fluid shunt having a flow control valve which maintains a selected and constant flow rate over a range of liquid delivery pressures.

13. A drink dispensing system comprising
at least one dispenser valve;

a carbonator;

an ice storage bin including first heat transfer coils and second heat transfer coils

5 therein;

a source of water;

a pump;

a carbonated water circuit, the carbonator, the first heat transfer coils and the second heat transfer coils being in the carbonated water circuit, the dispenser valve

10 being in fluid communication with the carbonated water circuit between the first heat transfer coils and the second heat transfer coils, the first heat transfer coils being in fluid communication between the carbonator and the dispenser valve in the carbonated water circuit and the second heat transfer coil being in fluid communication between the carbonator and the dispenser valve in the carbonated water circuit;

15 a control valve having a first position and a second position, the pump being in fluid communication between the source of water and the carbonator in the first position and the pump being in fluid communication between the carbonator and the carbonated water circuit in the second position.

14. The drink dispensing system of claim 13, the pump having a two-speed pump drive with higher and lower speeds, the higher speed selected with the control valve in the first position and the lower speed selected with the control valve in the second position.

15. The drink dispensing system of claim 13, the carbonated water circuit including a fluid shunt having selectable flow resistance, the fluid shunt extending in fluid communication around the two position control valve, the pump having a single speed.

16. The drink dispensing system of claim 15, the fluid shunt having a flow control valve which maintains a selected and constant flow rate over a range of liquid delivery pressures.

17. The drink dispensing system of claim 13, the carbonated water circuit being a closed loop independently of the two position control valve.

18. The drink dispensing system of claim 17, the carbonated water circuit including a bypass around the two position control valve to close the loop of the carbonated water circuit around the two position control valve.

19. The drink dispensing system of claim 18, the bypass having a check valve against backflow.